

$\chi_{b1}(1P)$
 $I^G(JPC) = 0^+(1^{++})$
 J needs confirmation.

Observed in radiative decay of the $\Upsilon(2S)$, therefore $C = +$. Branching ratio requires E1 transition, M1 is strongly disfavored, therefore $P = +$. $J = 1$ from SKWARNICKI 87.

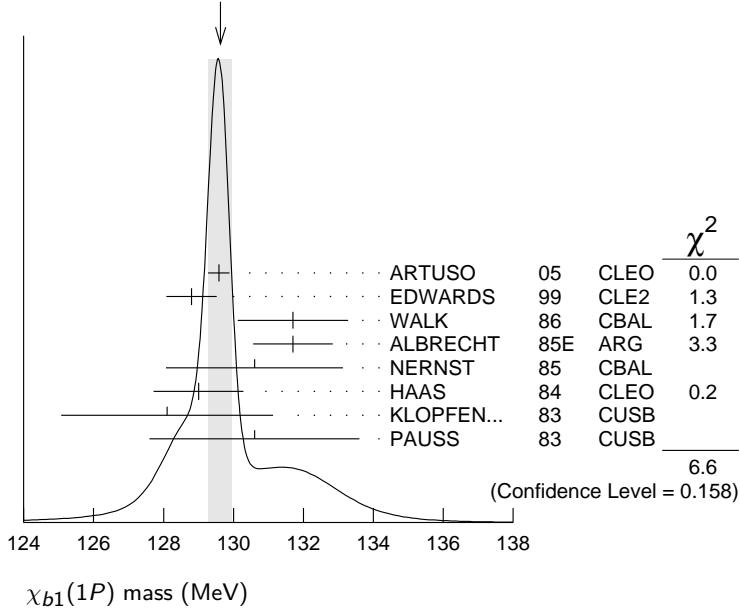
 $\chi_{b1}(1P)$ MASS

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
9892.78±0.26±0.31 OUR EVALUATION			From average γ energy below, using $\Upsilon(2S)$ mass = 10023.26 ± 0.31 MeV

 γ ENERGY IN $\Upsilon(2S)$ DECAY

VALUE (MeV)	DOCUMENT ID	TECN	COMMENT
129.63±0.33 OUR AVERAGE			Error includes scale factor of 1.3. See the ideogram below.
129.58±0.09±0.29	ARTUSO 05	CLEO	$\Upsilon(2S) \rightarrow \gamma X$
128.8 ± 0.4 ± 0.6	EDWARDS 99	CLE2	$\Upsilon(2S) \rightarrow \gamma \chi(1P)$
131.7 ± 0.9 ± 1.3	WALK 86	CBAL	$\Upsilon(2S) \rightarrow \gamma \gamma \ell^+ \ell^-$
131.7 ± 0.3 ± 1.1	ALBRECHT 85E	ARG	$\Upsilon(2S) \rightarrow \text{conv.} \gamma X$
130.6 ± 0.8 ± 2.4	NERNST 85	CBAL	$\Upsilon(2S) \rightarrow \gamma X$
129 ± 0.8 ± 1	HAAS 84	CLEO	$\Upsilon(2S) \rightarrow \text{conv.} \gamma X$
128.1 ± 0.4 ± 3.0	KLOPFEN... 83	CUSB	$\Upsilon(2S) \rightarrow \gamma X$
130.6 ± 3.0	PAUSS 83	CUSB	$\Upsilon(2S) \rightarrow \gamma \gamma \ell^+ \ell^-$

WEIGHTED AVERAGE
129.63±0.33 (Error scaled by 1.3)



$\chi_{b1}(1P)$ mass (MeV)

 $\chi_{b1}(1P)$ DECAY MODES

Mode	Fraction (Γ_i/Γ)	Confidence level
$\Gamma_1 \gamma \Upsilon(1S)$	$(33.9 \pm 2.2) \%$	
$\Gamma_2 D^0 X$	$(12.6 \pm 2.2) \%$	
$\Gamma_3 \pi^+ \pi^- K^+ K^- \pi^0$	$(2.0 \pm 0.6) \times 10^{-4}$	
$\Gamma_4 2\pi^+ \pi^- K^- K_S^0$	$(1.3 \pm 0.5) \times 10^{-4}$	
$\Gamma_5 2\pi^+ \pi^- K^- K_S^0 2\pi^0$	$< 6 \times 10^{-4}$	90%
$\Gamma_6 2\pi^+ 2\pi^- 2\pi^0$	$(8.0 \pm 2.5) \times 10^{-4}$	
$\Gamma_7 2\pi^+ 2\pi^- K^+ K^-$	$(1.5 \pm 0.5) \times 10^{-4}$	
$\Gamma_8 2\pi^+ 2\pi^- K^+ K^- \pi^0$	$(3.5 \pm 1.2) \times 10^{-4}$	

NODE=M077215;NODE=M077

DESIG=1
DESIG=2
DESIG=3
DESIG=4
DESIG=5
DESIG=6
DESIG=7
DESIG=8

Γ_9	$2\pi^+ 2\pi^- K^+ K^- 2\pi^0$	$(8.6 \pm 3.2) \times 10^{-4}$
Γ_{10}	$3\pi^+ 2\pi^- K^- K_S^0 \pi^0$	$(9.3 \pm 3.3) \times 10^{-4}$
Γ_{11}	$3\pi^+ 3\pi^-$	$(1.9 \pm 0.6) \times 10^{-4}$
Γ_{12}	$3\pi^+ 3\pi^- 2\pi^0$	$(1.7 \pm 0.5) \times 10^{-3}$
Γ_{13}	$3\pi^+ 3\pi^- K^+ K^-$	$(2.6 \pm 0.8) \times 10^{-4}$
Γ_{14}	$3\pi^+ 3\pi^- K^+ K^- \pi^0$	$(7.5 \pm 2.6) \times 10^{-4}$
Γ_{15}	$4\pi^+ 4\pi^-$	$(2.6 \pm 0.9) \times 10^{-4}$
Γ_{16}	$4\pi^+ 4\pi^- 2\pi^0$	$(1.4 \pm 0.6) \times 10^{-3}$

DESIG=9
DESIG=10
DESIG=11
DESIG=12
DESIG=13
DESIG=14
DESIG=15
DESIG=16

$\chi_{b1}(1P)$ BRANCHING RATIOS

$\Gamma(\gamma \Upsilon(1S))/\Gamma_{\text{total}}$	Γ_1/Γ
0.339 \pm 0.022 OUR AVERAGE	

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.339 \pm 0.022 OUR AVERAGE				
0.331 \pm 0.018 \pm 0.017	3222	1,2 KORNICER	11 CLEO	$e^+ e^- \rightarrow \gamma\gamma\ell^+\ell^-$
0.350 \pm 0.023 \pm 0.018	13k	3 LEES	11J BABR	$\Upsilon(2S) \rightarrow X\gamma$
0.32 \pm 0.06 \pm 0.07		WALK	86 CBAL	$\Upsilon(2S) \rightarrow \gamma\gamma\ell^+\ell^-$
0.47 \pm 0.18		KLOPFEN...	83 CUSB	$\Upsilon(2S) \rightarrow \gamma\gamma\ell^+\ell^-$

1 Assuming $B(\Upsilon(1S) \rightarrow \ell^+\ell^-) = (2.48 \pm 0.05)\%$.

2 KORNICER 11 reports $[\Gamma(\chi_{b1}(1P) \rightarrow \gamma \Upsilon(1S))/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] = (22.8 \pm 0.4 \pm 1.2) \times 10^{-3}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

3 LEES 11J reports $[\Gamma(\chi_{b1}(1P) \rightarrow \gamma \Upsilon(1S))/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] = (24.1 \pm 0.6 \pm 1.5) \times 10^{-3}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(D^0 X)/\Gamma_{\text{total}}$	Γ_2/Γ
12.6 \pm 1.9 \pm 1.1	
12.6 \pm 1.9 \pm 1.1	2310 4 BRIERE 08 CLEO $\Upsilon(2S) \rightarrow \gamma D^0 X$

4 For $p_{D^0} > 2.5$ GeV/c.

$\Gamma(\pi^+ \pi^- K^+ K^- \pi^0)/\Gamma_{\text{total}}$	Γ_3/Γ
2.0 \pm 0.6 \pm 0.1	
2.0 \pm 0.6 \pm 0.1	18 5 ASNER 08A CLEO $\Upsilon(2S) \rightarrow \gamma\pi^+\pi^-K^+K^-\pi^0$

5 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow \pi^+\pi^-K^+K^-\pi^0)/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] = (14 \pm 3 \pm 3) \times 10^{-6}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(2\pi^+ \pi^- K^- K_S^0)/\Gamma_{\text{total}}$	Γ_4/Γ
1.3 \pm 0.5 \pm 0.1	
1.3 \pm 0.5 \pm 0.1	11 6 ASNER 08A CLEO $\Upsilon(2S) \rightarrow \gamma 2\pi^+\pi^-K^-K_S^0$

6 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+\pi^-K^-K_S^0)/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] = (9 \pm 3 \pm 2) \times 10^{-6}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

$\Gamma(2\pi^+ \pi^- K^- K_S^0 2\pi^0)/\Gamma_{\text{total}}$	Γ_5/Γ
<6	
<6	90 7 ASNER 08A CLEO $\Upsilon(2S) \rightarrow \gamma 2\pi^+\pi^-K^-2\pi^0$

7 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+\pi^-K^-K_S^0 2\pi^0)/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] < 42 \times 10^{-6}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = 6.9 \times 10^{-2}$.

$\Gamma(2\pi^+ 2\pi^- 2\pi^0)/\Gamma_{\text{total}}$	Γ_6/Γ
8.0 \pm 2.4 \pm 0.4	
8.0 \pm 2.4 \pm 0.4	46 8 ASNER 08A CLEO $\Upsilon(2S) \rightarrow \gamma 2\pi^+ 2\pi^- 2\pi^0$

8 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+ 2\pi^- 2\pi^0)/\Gamma_{\text{total}}] \times [B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P))] = (55 \pm 9 \pm 14) \times 10^{-6}$ which we divide by our best value $B(\Upsilon(2S) \rightarrow \gamma\chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.

NODE=M077220

NODE=M077R1
NODE=M077R1

NODE=M077R1;LINKAGE=KA
NODE=M077R1;LINKAGE=KR

NODE=M077R1;LINKAGE=LE

NODE=M077R01
NODE=M077R01

NODE=M077R01;LINKAGE=BR

NODE=M077R02
NODE=M077R02

NODE=M077R02;LINKAGE=AS

NODE=M077R03
NODE=M077R03

NODE=M077R03;LINKAGE=AS

NODE=M077R04
NODE=M077R04

NODE=M077R04;LINKAGE=AS

NODE=M077R05
NODE=M077R05

NODE=M077R05;LINKAGE=AS

$\Gamma(2\pi^+ 2\pi^- K^+ K^-)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
1.5±0.5±0.1	18	9 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 2\pi^+ 2\pi^- K^+ K^-$
9 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+ 2\pi^- K^+ K^-)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (10 \pm 3 \pm 2) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_7/Γ NODE=M077R06
NODE=M077R06

NODE=M077R06;LINKAGE=AS

 $\Gamma(2\pi^+ 2\pi^- K^+ K^- \pi^0)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
3.5±1.2±0.2	22	10 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 2\pi^+ 2\pi^- K^+ K^- \pi^0$
10 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+ 2\pi^- K^+ K^- \pi^0)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (24 \pm 6 \pm 6) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_8/Γ NODE=M077R07
NODE=M077R07

NODE=M077R07;LINKAGE=AS

 $\Gamma(2\pi^+ 2\pi^- K^+ K^- 2\pi^0)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
8.6±3.2±0.4	26	11 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 2\pi^+ 2\pi^- K^+ K^- 2\pi^0$
11 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 2\pi^+ 2\pi^- K^+ K^- 2\pi^0)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (59 \pm 14 \pm 17) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_9/Γ NODE=M077R08
NODE=M077R08

NODE=M077R08;LINKAGE=AS

 $\Gamma(3\pi^+ 2\pi^- K^- K_S^0 \pi^0)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
9.3±3.3±0.5	21	12 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 3\pi^+ 2\pi^- K^- K_S^0 \pi^0$
12 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 3\pi^+ 2\pi^- K^- K_S^0 \pi^0)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (64 \pm 16 \pm 16) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_{10}/Γ NODE=M077R09
NODE=M077R09

NODE=M077R09;LINKAGE=AS

 $\Gamma(3\pi^+ 3\pi^-)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
1.9±0.6±0.1	25	13 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 3\pi^+ 3\pi^-$
13 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 3\pi^+ 3\pi^-)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (13 \pm 3 \pm 3) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_{11}/Γ NODE=M077R10
NODE=M077R10

NODE=M077R10;LINKAGE=AS

 $\Gamma(3\pi^+ 3\pi^- 2\pi^0)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
17±5±1	56	14 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 3\pi^+ 3\pi^- 2\pi^0$
14 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 3\pi^+ 3\pi^- 2\pi^0)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (119 \pm 18 \pm 32) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_{12}/Γ NODE=M077R11
NODE=M077R11

NODE=M077R11;LINKAGE=AS

 $\Gamma(3\pi^+ 3\pi^- K^+ K^-)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
2.6±0.8±0.1	21	15 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 3\pi^+ 3\pi^- K^+ K^-$
15 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 3\pi^+ 3\pi^- K^+ K^-)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (18 \pm 4 \pm 4) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_{13}/Γ NODE=M077R12
NODE=M077R12

NODE=M077R12;LINKAGE=AS

 $\Gamma(3\pi^+ 3\pi^- K^+ K^- \pi^0)/\Gamma_{\text{total}}$

VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT
7.5±2.6±0.4	28	16 ASNER	08A CLEO	$\gamma(2S) \rightarrow \gamma 3\pi^+ 3\pi^- K^+ K^- \pi^0$
16 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 3\pi^+ 3\pi^- K^+ K^- \pi^0)/\Gamma_{\text{total}}] \times [B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (52 \pm 11 \pm 14) \times 10^{-6}$ which we divide by our best value $B(\gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.				

 Γ_{14}/Γ NODE=M077R13
NODE=M077R13

NODE=M077R13;LINKAGE=AS

$\Gamma(4\pi^+ 4\pi^-)/\Gamma_{\text{total}}$					Γ_{15}/Γ
VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT	
2.6±0.9±0.1	24	17 ASNER	08A CLEO	$\Gamma(2S) \rightarrow \gamma 4\pi^+ 4\pi^-$	
17 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 4\pi^+ 4\pi^-)/\Gamma_{\text{total}}] \times [B(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (18 \pm 4 \pm 5) \times 10^{-6}$ which we divide by our best value $B(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.					
$\Gamma(4\pi^+ 4\pi^- 2\pi^0)/\Gamma_{\text{total}}$					Γ_{16}/Γ
VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT	
14±5±1	26	18 ASNER	08A CLEO	$\Gamma(2S) \rightarrow \gamma 4\pi^+ 4\pi^- 2\pi^0$	
18 ASNER 08A reports $[\Gamma(\chi_{b1}(1P) \rightarrow 4\pi^+ 4\pi^- 2\pi^0)/\Gamma_{\text{total}}] \times [B(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P))] = (96 \pm 24 \pm 29) \times 10^{-6}$ which we divide by our best value $B(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) = (6.9 \pm 0.4) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value.					

$\chi_{b1}(1P)$ Cross-Particle Branching Ratios					
$\Gamma(\chi_{b1}(1P) \rightarrow \gamma \Gamma(1S))/\Gamma_{\text{total}} \times \Gamma(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P))/\Gamma_{\text{total}}$					
$\Gamma_1/\Gamma \times \Gamma_{14}^{T(2S)}/\Gamma^{T(2S)}$					
VALUE (units 10^{-3})	EVTS	DOCUMENT ID	TECN	COMMENT	
24.1±0.6±1.5	13k	LEES	11J BABR	$\Gamma(2S) \rightarrow X\gamma$	
$B(\chi_{b1}(1P) \rightarrow \gamma \Gamma(1S)) \times B(\Gamma(2S) \rightarrow \gamma \chi_{b1}(1P)) \times B(\Gamma(1S) \rightarrow \ell^+ \ell^-)$					
VALUE (units 10^{-4})	EVTS	DOCUMENT ID	TECN	COMMENT	
5.65±0.11±0.27	3222	KORNICER	11 CLEO	$e^+ e^- \rightarrow \gamma\gamma\ell^+\ell^-$	
$B(\chi_{b1}(1P) \rightarrow \gamma \Gamma(1S)) \times B(\Gamma(3S) \rightarrow \gamma \chi_{b1}(1P)) \times B(\Gamma(1S) \rightarrow \ell^+ \ell^-)$					
VALUE (units 10^{-5})	EVTS	DOCUMENT ID	TECN	COMMENT	
1.33±0.30±0.23	50	KORNICER	11 CLEO	$e^+ e^- \rightarrow \gamma\gamma\ell^+\ell^-$	
$B(\chi_{b2}(1P) \rightarrow pX + \bar{p}X)/B(\chi_{b1}(1P) \rightarrow pX + \bar{p}X)$					
VALUE	DOCUMENT ID	TECN	COMMENT		
1.068±0.010±0.040	BRIERE	07 CLEO	$\Gamma(2S) \rightarrow \gamma \chi_{bJ}(1P)$		
$B(\chi_{b0}(1P) \rightarrow pX + \bar{p}X)/B(\chi_{b1}(1P) \rightarrow pX + \bar{p}X)$					
VALUE	DOCUMENT ID	TECN	COMMENT		
1.11±0.15±0.20	BRIERE	07 CLEO	$\Gamma(2S) \rightarrow \gamma \chi_{bJ}(1P)$		

$\chi_{b1}(1P)$ REFERENCES					
KORNICER	11	PR D83 054003	M. Kornicer <i>et al.</i>	(CLEO Collab.)	REFID=16769
LEES	11J	PR D84 072002	J.P. Lees <i>et al.</i>	(BABAR Collab.)	REFID=53936
ASNER	08A	PR D78 091103	D.M. Asner <i>et al.</i>	(CLEO Collab.)	REFID=52574
BRIERE	08	PR D78 092007	R.A. Briere <i>et al.</i>	(CLEO Collab.)	REFID=52577
BRIERE	07	PR D76 012005	R.A. Briere <i>et al.</i>	(CLEO Collab.)	REFID=51887
ARTUSO	05	PRL 94 032001	M. Artuso <i>et al.</i>	(CLEO Collab.)	REFID=50454
EDWARDS	99	PR D59 032003	K.W. Edwards <i>et al.</i>	(CLEO Collab.)	REFID=46612
SKWARNICKI	87	PRL 58 972	T. Skwarnicki <i>et al.</i>	(Crystal Ball Collab.) J	REFID=40019
WALK	86	PR D34 2611	W.S. Wall <i>et al.</i>	(Crystal Ball Collab.)	REFID=22290
ALBRECHT	85E	PL 160B 331	H. Albrecht <i>et al.</i>	(ARGUS Collab.)	REFID=22288
NERNST	85	PRL 54 2195	R. Nernst <i>et al.</i>	(Crystal Ball Collab.)	REFID=22289
HAAS	84	PRL 52 799	J. Haas <i>et al.</i>	(CLEO Collab.)	REFID=22287
KLOPFEN... PAUSS	83	PRL 51 160 PL 130B 439	C. Klopfenstein <i>et al.</i> F. Pauss <i>et al.</i>	(CUSB Collab.) (MPIIM, COLU, CORN, LSU+)	REFID=22285 REFID=22286

NODE=M077R14
NODE=M077R14

NODE=M077R14;LINKAGE=AS

NODE=M077R15
NODE=M077R15

NODE=M077R15;LINKAGE=AS

NODE=M077230

NODE=M077B03
NODE=M077B03NODE=M077B01
NODE=M077B01NODE=M077B02
NODE=M077B02NODE=M077R20
NODE=M077R20NODE=M077R21
NODE=M077R21

NODE=M077